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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,115	12/31/2001	Xiaorong Wang	P01040US1A/FIR 2 0093	1041

7590 07/24/2003  
Chief Intellectual Property Counsel  
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EXAMINER

RAJGURU, UMAKANT K

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 07/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

Applicant(s)

Examiner

Group Art Unit

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- ☐ Responsive to communication(s) filed on \_\_\_\_\_
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-20 is/are pending in the application.
- Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-20 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement

## Application Papers

- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some\* ☐ None of the:
  - ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper N (s) 3
- ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other \_\_\_\_\_

Office Action Summary

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1. An IDS (paper 3) has been filed on September 19, 2002.
2. Claims under examination are 1-20.
3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 2, 7, 12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague (a) in not specifying how much the (claimed) shore hardness A can be, (b) in not presenting a proper Markush format (which should be "selected from a group consisting of"), (c) since meaning of "maleimide contributed monomer units" is not clear. This claim recites "block"; however the block is nothing but a monomer.

Claim 2 is vague in reciting "generally" on line 5.

Claim 7 is vague (a) in reciting improper Markush terminology (like claim 1) and (b) in reciting "the like" on last line, because it is not clear what is specifically encompassed by "the like".

*OKS* Claim 12 is quite vague in its format. ~~It~~ fails to specifically set forth the scope of what is being claimed.

Claim 13 is indefinite in reciting "carboxyl, formyl and hydroxyl".

5. Claim 11 is objected to because of the following informalities:

Word "phathalate" should be "phthalate". Appropriate correction is required.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 4, 8, 10-15, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al (USP 5905116).

(Wang is of record on PTO-1449, paper 3).

Wang discloses gels derived from extending grafted  $\alpha$ -olefin-maleimide centipede polymers and polypropylene. Such a gel contains (a) a grafted polymer of a poly( $\alpha$ -olefin-(co)-(maleimide) having at least one maleated polypropylene segment grafted thereto through a functional linkage formed by a crosslinking reaction with a diamine grafting agent and (b) an extender such as an oil (col. 3, lines 26-34). Certain fillers such as metal oxides are added to the gel (col. 18, lines 47-49).

Above claims therefore lack novelty.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 4, and 7-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (USP 5905116).

Disclosure of Wang is presented earlier.

It would have been obvious to follow teaching of Wang and arrive at claimed invention. Patentee does not mention claimed particle size of metal oxides.

Nonetheless it is within the expertise of one to choose a suitable particle size.

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10. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (USP 5905116) as applied to claim 1 above, and further in view of Wang et al (USP 6954532).

(Wang '532 is of record on PTO-1449 paper 3)

Disclosure of Wang '116 is presented earlier.

Wang '116 does not mention vinyl substituted aromatic hydrocarbons of claims 2 and 3.

Wang '532 discloses centipede polymers. These polymers are grafted. A copolymer of maleated polypropylene and maleated hydrogenated block is grafted onto a poly(alkenyl benzene-maleimide) using a diamine grafting agent (col. 2, lines 43-47). The hydrogenated block copolymer contains vinyl-substituted aromatic hydrocarbon (col. 4, lines 31-33). Some of the claimed hydrocarbons are listed in col. 4, lines 60-63.

Therefore it would have been obvious to use one of the monomers of Wang '523 as a preferred monomer in lieu of the  $\alpha$ -olefin in the poly ( $\alpha$ -olefin(Co)-(maleimide)) of Wang '116 in order to impart enhanced elastomeric properties to the gel (of Wang '116).

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (USP 5905116) as applied to claim 1 above, and further in view of Wang et al (USP 6350800).

Disclosure of Wang '116 is presented earlier.

Wang '116 does not mention alkyl vinyl ethers of claim 6.

Wang '800 discloses soft polymer gels. Composition of such a gel contains poly(alkenyl-co-maleimide) which has monomers from alkenyl benzene, monomers like

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$R_1R_2$  ethylene, and monomers like alkyl vinyl ethers (col. 1, line 65 to col. 2, line 41) these claimed instant claim 6 are listed in col. 2, lines 37-41.

It would therefore have been obvious to use one of the ether monomers of Wang '800 as an alternate monomer in the composition of gel of Wang '116 in order to enhance tensile strength, tear-strength, elongation and, damping properties of the gel.

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (USP 6133354) as applied to claims 1 and 4 above, and further in view of Wang et al (USP 6133354).

Disclosure of Wang '116 is presented earlier.

Wang '116 does not mention isobutylene as the monomer of the copolymer.

Wang '345 discloses copolymers as additives in gels. In col. 3, lines 48-50, the patentee teaches isobutylene as a preferred monomer in the preparation of poly ( $R_1(R_2)$  ethylene-co-maleimide).

Therefore it would have been obvious to use the isobutylene in the polymer of Wang '116 in order to enhance tensile strength and at the same time enhance damping characteristics without need of a plasticizer.

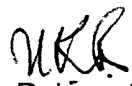
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to U. K. Rajguru whose telephone number is 703-308-3224. The examiner can normally be reached on Monday-Friday from 9:30 am to 6:00 pm.

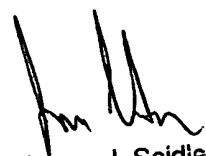
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on 703-308-2462. The fax phone

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numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

  
U. K. Rajguru/mn  
July 22, 2003

  
James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1700